

Figure 1

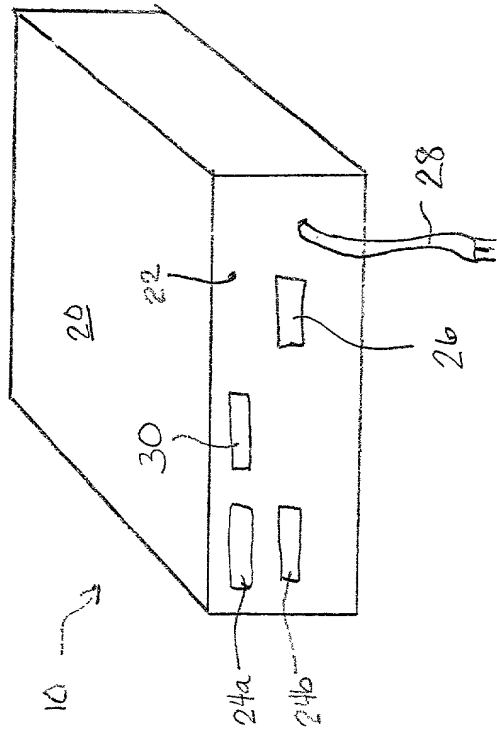


Fig 2a

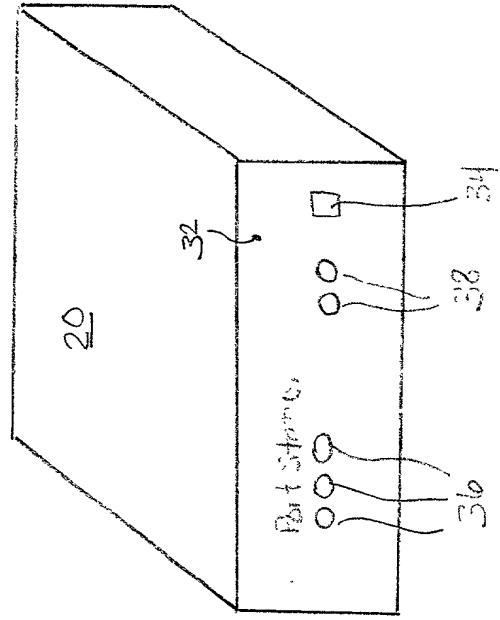


Fig. 2b

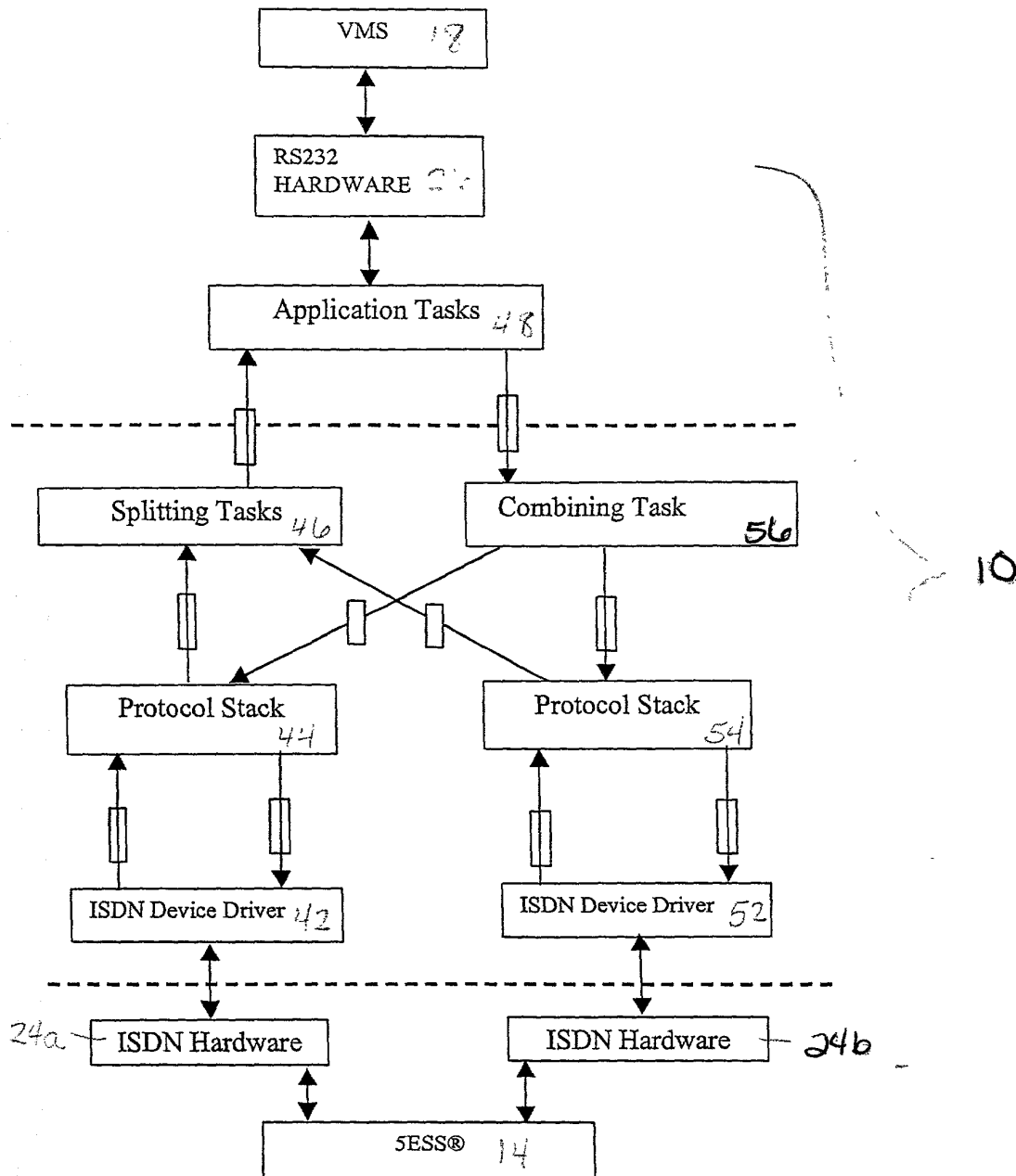


Fig. 3

## ISDN DRIVER (Interrupt Service Routine)

If the Cause of Interrupt IS A New frame received

Receive the frame from 5ESS switch through the hardware in a temporary buffer

Test for its integrity

If it a good frame Forward it to the Protocol Stack, else discard it

End If

If the Cause of Interrupt IS Link Deactivated

Reset the protocol stack

Link\_Deactivated=TRUE

End If

If the Cause of Interrupt IS Link Activated AND Link\_Deactivated=TRUE

Link\_Activated=FALSE

Power up the protocol stack

End If

Fig 4a

## PROTOCOL STACK

The protocol stack consists of three sub-layers each implementing the data link, network and transportation layer of the protocol. Each layer does the following processing

FOREVER

1. Wait for a 5E Frame.
2. Determine if the frame is a control packet or a data packet
3. If it is a control packet
  - a. Send an appropriate response (varies for error Control, flow control, link integrity checking etc.,) to the lower layer.
  - b. Based on the type of the control packet, take the stack to a different state.
4. If the received packet is a data packet without errors AND the stack is in Data Transfer State, forward it to the upper layer of the stack. (Upper layer for the three sub-layers will be network layer, transportation layer and splitting task)

END FOREVER

Fig 4b

**SPLITTING TASK:**

FOREVER

1. Read the message from the protocol stack.
2. Split the message into individual call messages.
3. Forward it to the application task

END FOREVER

Fig 4c

**APPLICATION TASK:**

FOREVER

1. Read the message delivered by the Splitting Task
2. Translate the message from the 5ESS format to 1AESS format

3. Deliver it to the VMS through the RS232 Hardware  
END FOREVER

Fig 4d

#### APPLICATION TASK:

FOREVER

1. Receive the message from the VMS through the RS232 hardware
2. Translate the message from the 1AESS format to the 5ESS format
3. Forward it to the COMBINING TASK

END FOREVER

Fig 4e

#### COMBINING TASK:

LinkToBeSent=1

FOREVER

Receive The Message from the Application and Combine Them

If both the links are in a working condition

Send the Combined Message to the stack corresponding to Link indicated by  
LinkToBeSent

If LinkToBeSent=0 then LinkToBeSent=1 else LinkToBeSent=0

End if

If one of the links is failed, send it to the stack corresponding to the healthy link.

End FOREVER

Fig 4f

## PROTOCOL STACK

Stands Blocked until the protocol stack is in the DATA TRANSFER STATE.

FOREVER

Wait for a Message from the COMBINING TASK

Receive in a temporary buffer and Append Control Information to the translated message.

Forward it to the ISDN Device Driver

END FOREVER

Fig 4g

## ISDN DRIVER (Interrupt Service Routine)

IF the cause of the Interrupt is "Ready for Transmission"

    If the input message queue has any message

        Transmit it to the 5ESS Switch through the hardware

    End If

End If

Fig 4h